

REMARKS

Prior to entry of the above amendment, claims 1, 10, and 12-14 are pending. By way of the above amendment, claim 12 is canceled. After entry of the amendment, claims 1, 10, 13 and 14 will be pending. The applicants respectfully request reconsideration and allowance of this application in view of the above amendments and the following remarks.

Interview

Counsel for the applicant appreciates the courtesy of the interview on August 11, 2010, wherein the examiner indicated that the present corrected office action would be issued.

Entry of Amendment Respectfully Requested

The above amendment proposes to add claim 12 to independent claims 1, 13 and 14; and to cancel claim 12. Consequently, the amendment is considered to require only a cursory review by the examiner. Accordingly, entry of the above amendment is proper despite the After Final status of the office action.

Rejection Under 35 USC 103(a)

Claims 1, 10 and 12-14 were rejected under 35 USC 103(a) as being unpatentable over JP-A 02-107682 to Inako *et al.* (hereafter, Inako), US 6627844 to Liu *et al.* (hereafter, Liu), JP 01125345U to Aoyama (hereafter, Aoyama) and US 5,811,754 to Nakatani *et al.* (hereafter, Nakatani). By way of the above amendment, the limitations of claim 12 are added to independent claims 1, 13 and 14; and claim 12 is canceled. The applicants respectfully request that this rejection be withdrawn for the following reasons.

The office action cites Liu specifically with respect to disclosing “laser machining of holes to produce entrance holes that are larger than exit holes”.

Liu discloses a method of laser drilling (milling) in which the laser beam is irradiated repeatedly within one hole, to make a hole with a precisely tapered shape. According to Liu, Fig. 2d, the laser beam is irradiated about ten times into one hole. Liu, col. 4, lines 41-49 (paragraph [0031]) further discloses that the laser milling process continues until the desired, tapered rectangular hole is created (col. 4, lines 49-50; e.g., Fig. 2e). In Liu, the workpiece is a nozzle plate of an ink-jet head which is made of a hard material such as metal (here, stainless steel) or resin (col. 7, lines 17-19 and 41-47; paragraph [0048]-[0051]). Therefore, if the laser beam is irradiated several times into the same hole in a hard material, a precisely tapered hole can be formed without a problem. However, if the laser beam is irradiated several times in the same hole of a pressure-sensitive adhesive layer of a pressure-sensitive adhesive sheet, the diameter of the hole becomes very large and the appearance of the adhesive sheet is seriously marred.

Consequently, it would not have been obvious to combine Liu’s disclosure regarding workpieces of a hard material, with the other cited references. Applicants respectfully submits that the combination of Liu’s teaching of drilling holes “in hard materials, such as cooling channels in turbine blades, nozzles in ink-jet printers, or via holes in printed circuit boards” (col. 1, lines 36-40) with the soft pressure sensitive adhesive sheet such as in Inako is improper. The hardness of the workpiece is important to Liu, and the removal thereof would frustrate the purpose of the system discussed therein of milling a hole with a precisely tapered shape.

MPEP § 2143.01(V) states “[i]f proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is **no suggestion or motivation** to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125

(Fed. Cir. 1984)” (emphasis added). “If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are **not sufficient** to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959)” (emphasis added).

It is respectfully submitted, therefore, that it would not have been obvious to one of ordinary skill in the art to have combined Inako, Liu, Aoyama and Nakatani as proposed in the office action. That is, it would not have been obvious to have used the laser method of Liu to machine holes in the sheet of Inako, and this rejection should be withdrawn.

Accordingly, claims 1, 10, 13 and 14 are believed to be patentable over the references.

Conclusion

In view of the foregoing, the applicants submit that this application is in condition for allowance. A timely notice to that effect is respectfully requested. If questions arise, the examiner is invited to contact the undersigned by telephone.

If there are any problems with the payment of fees, please charge any underpayments and credit any overpayments to Deposit Account No. 50-1147.

Respectfully submitted,
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